JVC



MODEL

RC-S22 C/W/JW/WH

FM-AM-SW

RC-S22 L/LB/LD

FM-MW-LW-SW

9-BAND RADIO CASSETTE RECORDER



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### **Specifications**

Frequency range	: FM	88-108 MHz	S/N ratio	: 40 dB (NORM)
	AM/MW	540-1600 kHz	Rewind and fast-	
	LW	150-350kHz (L/LB/LD)	forward time	: Approx. 105 sec. (0
	SW1	5.95 – 6.2 MHz	Speaker	: 8 cm (3-3/16") x 1,
	SW2	7.1—7.3 MHz	Motor	: Capstan (Electronic
	SW3	9.5-9.8 MHz		·
	SW4	11.7-12.0 MHz	Heads	: R/P ; permalloy
	SW5	15.1-15.45 MHz		Erase; Magnet
	SW6	17.7-17.9 MHz	Power output	: 1.1 W max. (8 $\Omega$ )
	SW7	21.45-21.75 MHz (JW/W/	Jacks	: Earphone x 1
		C/WH)		MIC x 1

: Telescopic antenna for FM and Antennas

SW1-SW7 (C/W/JW/WH) SW1-SW6

(L/LB/LD)

Ferrite core antenna for AM (MW) & SW1

: 2-track, monaural Track system : 0.2 % (WRMS) Wow and flutter Frequency response: 100 Hz - 8 kHz

(Speaker terminals: NORM)

C-60 cassette)

, 8Ω ic governor)

Ext. DC 6V x 1

Power supply : DC 4.5 V (3 "AA" size cells) (C/W/JW

DC 45 V (3"R6" size celles)

Power consumption: 5.4 W AC (using the AC adaptor) : 243.5(W) x 104(H) x 71.5(D) mm **Dimensions** 

 $(9-5/8" \times 4-1/8" \times 2-7/8")$ 

Weight : 0.75 kg (1.65 lbs) (without batteries)

Design and specifications are subject to change without notice.

## **Sefety Precoution**

#### Safety Component Parts List A

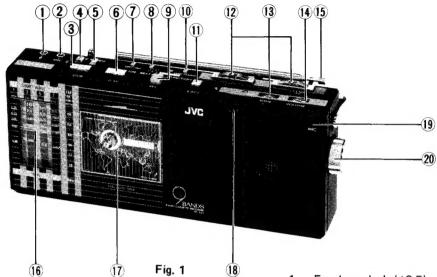
Ref. No.	Parts No.	Remarks	Q'ty		
R1	QRS188J-181	M.G. Resistor	180Ω 1/8W	1	
R12	″ -470	n n	47Ω "	1	
R302	" -220	"	22Ω "	1	
R304	″ -680	"	68Ω "	1	
R305	" -221	"	220Ω "	1	
R307	QRD161J-101	Carbon Resistor	100Ω 1/6W	1	
IC4,5	TA7331P	IC	Power Amp	2	
	XDE-5A3LE	E-5A3LE Motor			

#### ∆ Safety mark

Safety is very important with this unit. When replacing the parts marked  $\triangle$  , be sure to use only those designated parts. The designated resistors, diodes, transistors become hot in use. When replacing, be sure to secure them with a distance of more than 5 mm from the circuit board. In addition, they are banded together to avoid touching other wiring, recheck this point as well after repair.

The wiring of the primary side should be wound more than one and half times, then soldered.

### **Controls and Connections**





**How To Engage Dialrope** 

- 1. Turn the dial drum fully counterclockwise (to the lowest frequency).
- 2. Use tetron cord (850 mm long and 0.5 mm in diameter) with applied micro wax.
- 3. Install the string in the sequence of the numbers.

When removing the P.W. board, leave the dial string as it is set on the drum.

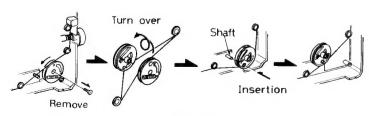
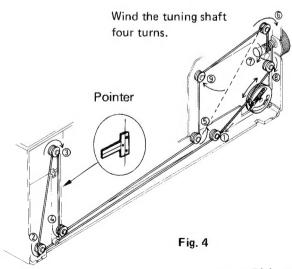


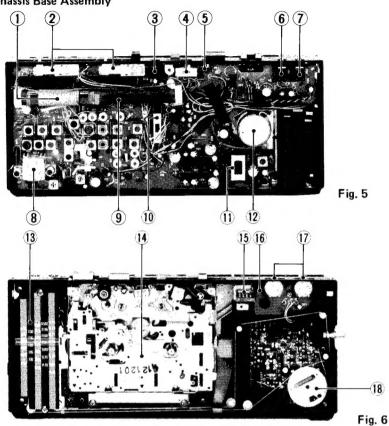
Fig. 3

- 1. Earphone jack ( $\phi$ 3.5)
- 2. MIC jack ( $\phi$ 3.5)
- 3. STOP button
- 4. CUE button
- 5. REVIEW button
- 6. PLAY button
- PAUSE switch
   BEAT CUT switch
- 9. REC button
- FUNCTION switch (TAPE/RADIO OFF/ RADIO)
- 11. EJECT button
- 12. BAND SELECTOR switch (AM/FM/SW1-7)
- 13. TONE control
- 14. VOLUME control
- 15. Telescopic antenna
- 16. Tuning pointer
- 17. Cassette door
- 18. Tape counter/Reset button
- 19. Built-in Microphone
- 20. Tuning knob
- 21. BATTERY SAVE switch
- 22. DC input jack (DC 6 V)



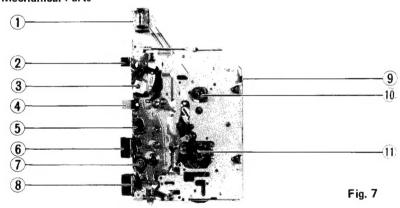
### **Main Parts Location**

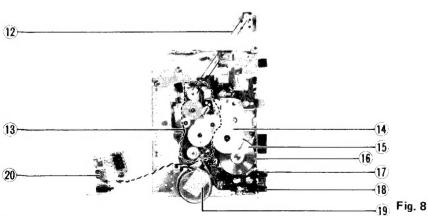
### ■ Chassis Base Assembly



- 1. Bar antenna assembly (ferrite core)
- 2. BAND SELECTOR switch
- 3. FUNCTION switch (TAPE/RADIO)
- 4. BEAT CUT switch
- 5. PAUSE switch
- 6. MIC iack
- 7. Earphone jack
- 8. V. capacitor
- 9. Main P.W. board assembly
- 10. P.B./Rec slide switch
- 11. BATTERY SAVE switch
- 12. Motor
- 13. Dial scale
- 14. Mechanical assembly
- 15. Tape counter/Reset button
- 16. V. resistor P.W. board assembly
- 17. V. resistor assembly
- 18. Dial drum

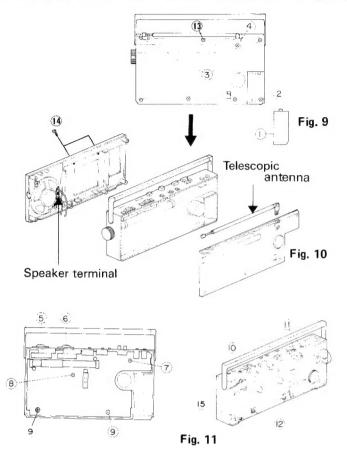
### Mechanical Parts





- 1. Counter assembly
- 2. Eject button
- 3. Magnetic erase head
- 4. REC button
- 5. R/P head
- 6. PLAY button
- 7. Pinch roller arm assembly
- 8. STOP button
- 9. REC safety lever
- 10. Supply reel disk
- 11. Take-up reel disk
- 12. Counter belt
- 13. Reel disk bracket assembly
- 14. Sub gear
- 15. Flywheel assembly
- 16. Main belt
- 17. REW button
- 18. FF button
- 19. DC motor
- 20. Governor motor control C. board

### Removal of the Main Parts



#### 1. Rear and Front cabinets

- 1) Remove the battery cover from the Rear cabinet.
- 2) Remove 7 screws (2), (3) and (13).
  - 2): SPSF2612R
- (13): SPSP 2605R
- (3): SPSF2625R
- 3) Push the EJECT button to open the cassette door and remove 2 screws (14).
- 4) To pull out the rod antenna from the rear cabinet, remove a screw (4) (SPSP2606R).
- 5) Unsolder the speaker terminal.

#### 2. Dial back

1) Remove 2 screws (15) (SBSF2005Z).

### 3. Amplifier P.W. board assembly

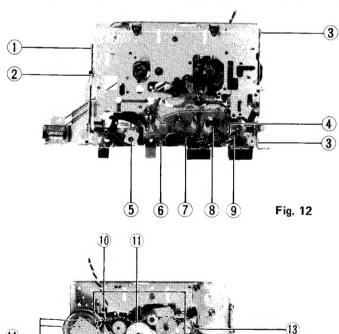
- 1) Remove 2 switch knobs (5) and (6) (Band selector switches).
- 2) To remove the Amp. P.W. board assembly, remove 4 screws (7), (8), (9) and the dial cord, or see fig. 3.
  - SPSH1730M
  - 8 VKZ4013-001
  - 9 SBSF2606Z

### 4. Cassette mechanism assembly

- 1) Remove 2 screws (7) and (8) (for fastening the Mecha, assembly and the Amp, P.W. board), 3 screws (10), (11) and (12).
  - SPSH1740N (10)
  - (11) SPSH1740N

  - SBSF2608Z

## Removal of Cassette Mechanism parts



(12)

### 1. Pinch roller assembly

Remove an E-ring (9) holding the assembly. Pull it off from the shaft.

### 2. R/P head

1) Unsolder wiring connected to the head, then remove a screw (7) and looseing a screw (6)

#### 3. Erase head

Remove a screw (5)

#### 4. Motor assembly

Remove 3 screws (3), (10) to the motor bracket, then remove 3 screws (14)

### 5. Reel disk bracket assembly (13)

Remove 4 screws (11).

#### 6. Sub gear

Fig. 13

Remove a special washer (17).

#### 7. Flywheel assembly

Remove an E-ring (8) and pull out the flywheel.

## Adjustment of Cassette Mechanism

When cassette mechanism parts are replaced, be sure to check the following items.

	Items	Rating	Test Method	Test Used			
1.	Power supply voltage	Rated voltage: DC 4.5 V Motor operating voltage range: 2.3-4.5 V	Constant supply voltage	-			
2.	Tape speed	4.8 cm/sec. +3 % (3000 Hz) -2 % Variation range -2 %	Frequency counter (Digital counter)	VTT-656			
3.	Wow & flutter	0.28% or less (JIS WRMS)	Wow meter	VTT-656			
4.	Torque of the take-up reel	PLAY: 28 - 70 g.cm FF: 50 - 100 g.cm REW: 50 - 100 g.cm		_			
5.	Current consumption (Motor only)	PLAY:         160 mA or less           FF:         250 mA or less           REW:         250 mA or less	DC ammeter	C-60 Use one with no irregularities in take-up torque.			
6.	Clamping force of the pinch roller	200 – 280 g	To be measured when the pinch roller stops rotating after being pulled in the horizontal direction with the tension gauge.				
7.	Thrust wobble of the flywheel	0.05 – 0.2 mm	Clearance gauge	_			
8.	Head adjust- ment for PLAY	3.4~4.0 mm	In the PLAY mode, the clearance should be within the value shown on the left. Also be sure neither corner of the head comes into contact with the cassette shell.	Any type of cassette tapes			
9.	Head adjust- ment for CUE/REVIEW	5.3 ~ 7.0 mm					
10.	Auto stop operation	At a reduced voltage of 2,3 V, the un after winding is finished in PLAY, FF	it should auto-stop within 10 sec. and REW modes.	Any type of cassette tape			
11.	Fast rewinding time	FF: 110 sec. or less REW: 110 sec. or less		C-60			

### **Adjustment of Cassette Amplifier**

(Conditions)

ltems	Test Tape	Alignment Methods	Alignment Point
1. Head azimuth	VTT-657 (8 kHz)	Adjust so that the output phase difference between L and R channels is minimum and that output is maximum.	Screw for playback head azimuth adjustment (fastening the head)
2. Tape speed adjust- ment and checking of wow & flutter	VTT-656 (3 kHz)	Adjust so that the electronic counter reads within 3,015 Hz ± 15 Hz.  Wow & flutter should be 0.28% (WRMS) or less.	Semi-fixed resistor on the Governor C.B. VR501  Motor
3. Checking of P.B. maximum output	VTT-662 (333 Hz)	Connect an electronic voltmeter to the speaker terminals so that the electronic voltmeter reads more than 2.8 V.	
4. Bias frequency adjustment		Connect a frequency counter to transistor Q302(B). Adjust so that the electronic counter reads 48 kHz.	T301 on the P.W.B.

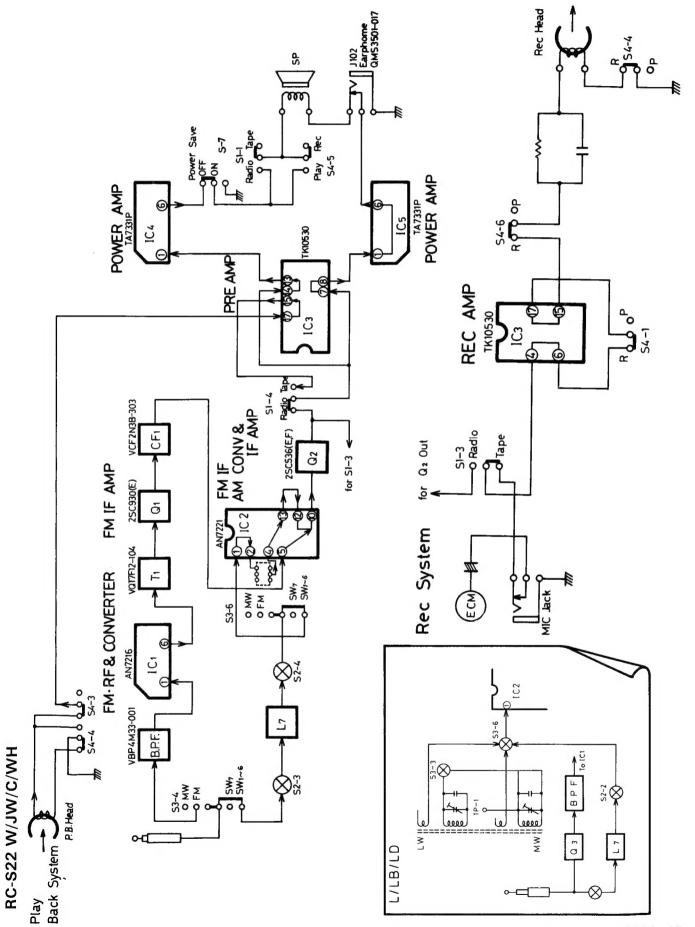
## **Tuner Alignment**

### BASIC CONDITIONS

. 400 Hz, 30 %								
Item	Description							
1. AM IF Alignment 1-1 Conditions of the receiver (1) Power source:  (2) Function switch position: (3) Band select switch: (4) Volume control: (5) Variable capacitor: 1-2 Connection of Sweeper and the receiver (1) Tuner input: (2) Tuner output: 1-3 Aligning position: 1-4 Alignment (Waveform):	DC 4.5 V (When the power is supplied directly to the tuner in the receiver, the voltage should be adjusted to the proper level which shall be required by the tuner.)  RADIO AM Minimum gain position  Near the minimum capacity position where no signal comes in.  Positive side to TP-1  Positive side to TP-2, Negative side to TP-4  T3, T4  Adjust AM I.F.T. (above mentioned aligning position) so that maximum and symmetrical waveform can be obtained.  In this case, the wavehead should be appeared at the center marker (455 kHz) on the scope of Sweeper.							
Sweeper input.	Same as mentioned in item 1-1 RADIO FM Minimum gain position Near the minimum capacity position where no signal comes in. Positive side to TP-5 Positive side to TP-2, Negative side to TP-4 a resistor ( $30 \text{ k}\Omega$ ) in series to the positive side cable which shall be led from a resistor ( $100 \text{ k}\Omega$ ) in series to the positive side cable which shall be led from a li F Waveform: T1 b) Discriminate Waveform: T2 ("S" curve waveform) Adjust the discriminate coil (T2) so that "S" curve waveform may be changed to IF waveform as shown in the figure (right). After the above, adjust T1 so that max. sensitivity and symmetrical IF waveform can be obtained on the scope of Sweeper. Adjust the discriminate T2 again so that the above symmetrical IF waveform may be changed to balanced "S" curve waveform.							
3. AM RF Alignment 3-1 Conditions of the receiver (1) Power source: (2) Function switch position: (3) Volume control: (4) Tone control: (5) Variable capacitor: 3-2 Conditions of SSG (1) Modulation: (2) Frequency: (3) Output level of the attenuator in SSG: 3-3 Power output measuring position:	Same as mentioned in item 1-1 RADIO 50 mW High Refer to the following list shown in item 3-4.  Refer to the basic condition. Refer to the following list shown in item 3-4.  Approx. 50 mW Speaker terminals							

3-4	Alignment: Band Select	Sort of Antenna to	_		Aligning P	'osition						
	Switch Position	be attached to SSG	Frequency of SSG	Variable Capacitor Position	C/M/JM/MH	L/LB/LD						
1			520 kHz	Max. capacity	L13	L13						
2			1,650 kHz	Min. capacity	TC-5	TC-5						
3	АМ	Loop Antenna	Adjust the above aligning position (I 13 & TC-5) repeatedly so t									
4			620 kHz	to be received 620 kHz	L5	L5						
5	1		1,400 kHz	to be received 1,400 kHz	TC-3	TC-3						
6			Adjust the above ali be obtained the best	gning position (L5 & TC-3) repe sensitivity.	eatedly so that t	he tuner can						
7			145 kHz	Max. capacity	_	L14						
8			360 kHz	Min. capacity	_	TC-12						
9	LW	Loop Antenna		gning position (L14 & TC-12) r e frequency range (bandwidth).	epeatedly so th	at the tuner						
10				to be received 160 kHz	_	L21						
11			350 kHz	to be received 350 kHz	_	TC-4						
12			Adjust the above al can be obtained the	igning position (L21 & TC-4) rebest sensitivity.	epeatedly so th	at the tuner						
Not	te: Adjust shortw	ave using a digital S.S.	G. so that its adjusting	frequency is within ±10 kHz.								
1			5.93 MHz	Max. capacity	L15	L15						
2			6.3 MHz	Min. capacity	TC-6	TC-6						
3	SW1	Dummy Antenna		Adjust the above aligning position (L15 & TC-6) repeatedly so that the tuner can be received above frequency range (bandwidth).								
4			6.15 MHz	L7	L7							
5			7.08 MHz	Max. capacity	L16	L16						
6			7.45 MHz	Min. capacity	TC-7	TC-7						
7	SW2	Dummy Antenna	Adjust the above aligning position (L16 & TC-7) repeatedly so that the tune can be received above frequency range (bandwidth).									
8	1		7.25 MHz	to be received 7.25 MHz	L8	L8						
9			9.48 MHz	Max. capacity	L17	L17						
10	1		9.9 MHz	Min. capacity	TC-8	TC-8						
11	SW3	Dummy Antenna	Adjust the above aligning position (L17 & TC-8) repeatedly so that the tur can be received above frequency range (bandwidth).									
12			9.65 MHz	to be received 9.65 MHz	L9	L9						
13			11.68 MHz	Max, capacity	L14	L18						
14	]		12.1 MHz	Min. capacity	TC-9	TC-9						
15	SW4	Dummy Antenna	Adjust the above al tuner can be received	igning position (L14, L18 & T d above frequency range (bandw	C-9) repeatedly idth).	so that the						
16			11.85 MHz	to be received 11.85 MHz	L10	L10						
17			15.08 MHz	Max. capacity	L19	L19						
18			15.6 MHz	Min. capacity	TC-10	TC-10						
19	SW5	Dummy Antenna		igning position (L19 & TC-10) : e frequency range (bandwidth).	repeatedly so th	at the tuner						
20			15.3 MHz	to be received 15.3 MHz	L11	L11						
21			17.68 MHz	Max. capacity	L20	L20						
22			18.0 MHz	Min. capacity	TC-11	TC-11						
23	SW6	Dummy Antenna		igning position (L20 & TC-11) refrequency range (bandwidth).	repeatedly so th	at the tuner						
24	1		17.8 MHz	to be received 17.8 MHz	L12	L12						

## **Block Diagram**



## Main Amp. P.W. Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks
34	_	Main P.W. Board	(Tuner) (See P20)
VC1,2,3,4	D		
TC1,2,3,4,	QAP1224-703	V. Capacitor	
5,6,7,8,			
10,11,12	QAT3001-053	T. Capacitor	
S4-14-6	OSS6201-208	S, Switch	
S3-13-6	QSS6401-051	,,	
S2-12-4 S1-11-4	QSS4601-001 QSS4201-074	,,	
S5-11-4	QSS2301-402	,,	
S6-1	QSS1201-024	11	
00 1	VYTA480-002	Spacer	
S7-17-4	QSS4201-021	S. Switch	
L1	V03105-030	RF Coil	(FM)
L2	V03105-029	Osc. Coil	(FM)
L4	V03047-21	Inductor	RC-S22L(BS)/L(ES)/
			LB(B)
L5	VQB012M-301	Ferrite Core Ant	
,,,	VQB012B-312		RC-S22L(BS)/L(ES)/
L7	VQR7012-608	SW Antenna Coi	LD(B)
L8	" -609	3W Antenna Coi	1
L9	·· -603	,,	
L10	′′ -604	"	
L11	605	"	
L12	" -606		
L13	VQM7U01-301	Osc. Coil	
L14	VOS7U01-302	"	RC-S22W(B)
"	VQS7T12-304	Antenna Coil	RC-L(BS)/L(ES)/CD(I
L15	" -301	"	
L16	" -302	"	
L17	VQS7T10-301	"	
L18	VQS7T12-304	,,	RC-S22W(B)
	VQL7T19-301		RC-S22L(BS)/L(ES)/ LD(B)
L19	VQS7T12-305	,,	LD(B)
L20	VQS7T12-306	,,	
L21	VQB012B-312	Ferrite Core Ant	.RC-S22L(BS)/L(ES)
"	VQR7012-607	11	RC-S22W(B)
T1, 2	VQT7F12-104	I.F.T.	
T3,4, CF2	VQT7A32-101	,,	
T301	VQH7001-001	Bias Osc. Coil	
BP, F1	VBP4M3B-001	B.P. Filter	
CF1	VCF2F3B-303	C. Filter	
J101	QMS3501-017	Mic. Jack	
J102 IC1	-017	E,P, Jack	
IC2	AN7216 AN7221	1.0.	
IC3	TK10530F	,,	
IC4, 5	TA7331P	"	
Q1	2SC930(E)	Transistor	
Q2, 302	2SC536(E,F)	"	
Q301	2SA684(R,S)	"	
Q3	2SC930(F)	"	RC-S22L(BS)/L(ES)/
			LD(B)
D1	MA345	Varicap	RC-S22L(BS)/L(ES)/
D2	KDOCC	7 0: 1	W(B)
D2	KB369	Z. Diode	DC COOL (DC) / LECV
D4	MA165	Si. Diode	RC-S22L(BS)/L(ES)/
D3, 101	MA165	,,	LD(B)
D3, 101	MA165	,,	
D301	HZ3C2	Z. Diode	
C1	QCF81HZ-103	C. Capacitor	
C2	QCY81EK-473	"	
		L	

Ref. No.	Parts No.	Parts Name	Remarks
C3	QCS81HK-220	C. Capacitor	
C5	QCC11EM-103	"	
C6	QCT05CH-5R0	"	RC-S22L(BS)/L(ES)
C7	QCT05TH-240	"	RC-S22LD(B)
"	QCT05TH-180	"	RC-S22L(BS)/L(ES)
C8	QCT05CH-5R0	"	
C9	QCT05CH-150	"	
C10	QCY81EK-473	"	
C11	QCF81HZ-103	"	
C13	QCC11EM-223	"	
C14	QCY81HK-152	"	
C15	QCY81EK-223	"	
C16	QCF81HZ-473		
C17	QCS81HK-470	- ·	
C18	QEK40JM-336	E. Capacitor	
C19 C20	QEK41CM-106 QCF81HZ-223	C Capacitar	
C20	QCY81EK-473	C. Capacitor	
C22	QEK HM-104	E. Capacitor	
C23	QEU40JM-477	L. Capacitoi	
C24	QCC11EM-473	C. Capacitor	RC-S22LD(B)/W(B)
"	QCC11EM-223	o, capacitoi	RC-S22L(BS)/LES
C25	QCY81EK-333	,,	0222,00,,220
C26	QCS11HJ-150	"	
"	QCS81HK-220	"	RC-S22W(B)
C28	QCY81EK-333	11	
C29	QCS11HJ-2R0	"	
C30	QCS81HK-2R0	"	
C31,33	QCS11HJ-4R0	"	
C34	QCS11HJ-390	13	
C35	QCF81HZ-103	"	
C36	QCS81HK-150	"	
C37	QCT05TM-180	"	RC-S22W(B)
"	QCS11HJ-390	"	RC-S22L(BS)/L(ES)/ LD(B)
C38	QCS81HK-361	**	
C39	QCT05CH-7R0	"	RC-S22W(B)
**	QFS21HJ-181	P.P. Capacitor	RC-S22L(BS)/L(ES)/ LD(B)
C40	QCT05CH-100	C. Capacitor	
C41	QCT05YL-5R0	11	
C42	" -4R0	"	
C43	QCT05UJ-220	"	
C44	QCT05YL-2R0	"	
C46	QCT05WK-8R0	"	
C47	QEK41HM-105	E. Capacitor	
C48	QCT05CH-5R0	C. Capacitor	RC-S22W(B)
C49	QEK41HM-104	,,	RC-S22L(BS)/L(ES)
C50	-105	,,	
C51	QCT05CH-2R0	,,	
C52	QCT05YL-3R0	,,	DC COOMID)
C53 C54	QCS11HJ-151 QCY81EK-473	,,	RC-S22W(B) RC-S22W(B)
.,	" -223	,,	RC-S22L(BS)/L(ES)/
	-225		LD(B)
C55	QCS81HK-101	11	RC-S22W(B)
"	" 470	"	RC-S22L(BS)/L(ES)/ LD(B)
C56	QEE40JM-106	T.E. Capacitor	רטוטו
C57	QCS81HK-470	C. Capacitor	RC-S22W(B)
,,	QCS11HJ-5R0	o. Capacitor	RC-S22L(BS)/L(ES)/ LD(B)
C58	QCT05CH-240	,,	(0,0)
C59	" -4R0	,,	RC-S22W(B)
	*4110		

	lt	em		Description						
25		ignment ons of the receiver ource: on switch position: lect switch: e control: ontrol: e capacitor: on of FM SSG tion:	21.43 MHz	Max. capacity	L18					
26			21.9 MHz	Min. capacity	TC-12	_				
27	SW7  FM RF Alignme Conditions of Power source: Function swit Band select sw Volume control: Variable capa Condition of Modulation: Frequency: Output level of FM SSG: Alignment:	Dummy Antenna	Adjust the above align can be received above f	ing position (L14 & TC-12) requency range (bandwidth).	epeatedly so th	at the tuner				
28			21.6 MHz	to be received 21.6 MHz	L21	-				
4-1 (1	Conditions of t ) Power source:	he receiver	Same as mentioned in	item 1-1						
(3 (4 (5	<ul><li>) Band select swi</li><li>) Volume control</li><li>) Tone control</li></ul>	tch:	RADIO FM 50 mW HIGH position Refer to the following list shown in item 4-3.							
4-2 (1 (2	Condition of F ) Modulation: ) Frequency: ) Output level of	M SSG	Refer to the basic conditions. Refer to the following list shown in item 4-3. The level shall be decided by the load resistance of the receiver mentioned in the basic conditions.							
4-3	Alignment:									
	Band Select	Sort of Antenna to be attached to SSG	Frequency of FM SSG	Variable Capacitor Position	Aligning I	L/LB/LD				

87.5 MHz

109.0 MHz

90 MHz

106 MHz

be obtained the best sensitivity.

### Parts Arrangement for Alignment

FM

2

3

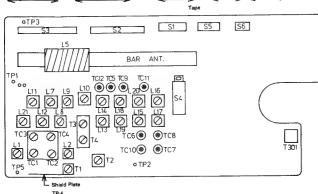
4

5

6

**Dummy Antenna** 

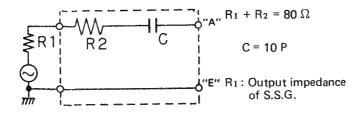




Dummy Antenna

(75  $\Omega$  unbalanced

antenna)



### L/LB/LD

be received above frequency range (bandwidth).

Max. capacity

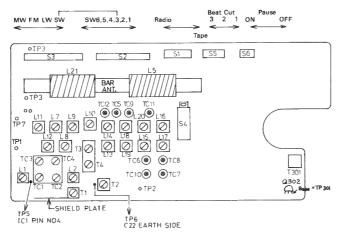
Min. capacity

Adjust the above aligning position (L2 & TC-2) repeatedly so that the tuner can

to be received 90 MHz

to be received 106 MHz

Adjust the above aligning position (L1 & TC-1) repeatedly so that the tuner can



L2

TC-2

L1

TC-1

L2

TC-2

L1

TC-1

#### **Power Save Switch**

#### 1. Purpose

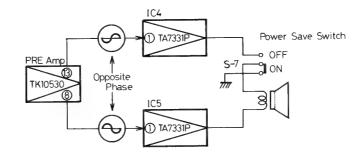
As RC-S22 obtains high output power (1 watt or more) from low voltage (3 batteries = 4.5 V), its high current consumption makes battery life shorter.

However, when large sound volume is not needed, the Power Save Switch at ON saves power, thereby permitting extended battery life.

#### 2. Circuit configuration

In RC-S22, a BTL amp circuit is used in its output stage to obtain high output power from low voltage.

Thus, power is saved when only one side of this amp is used with Switch ON. (See below.)



The output voltage at Switch ON is half that in normal condition.

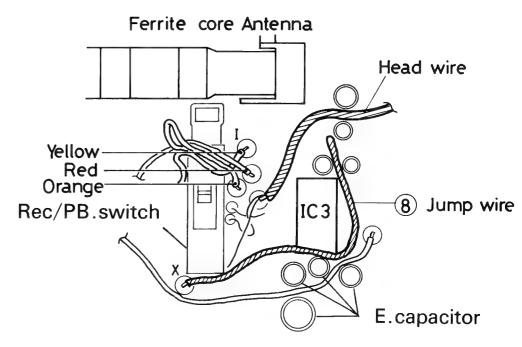
#### Caution:

#### Wiring with which Playback Oscillation is Prevented

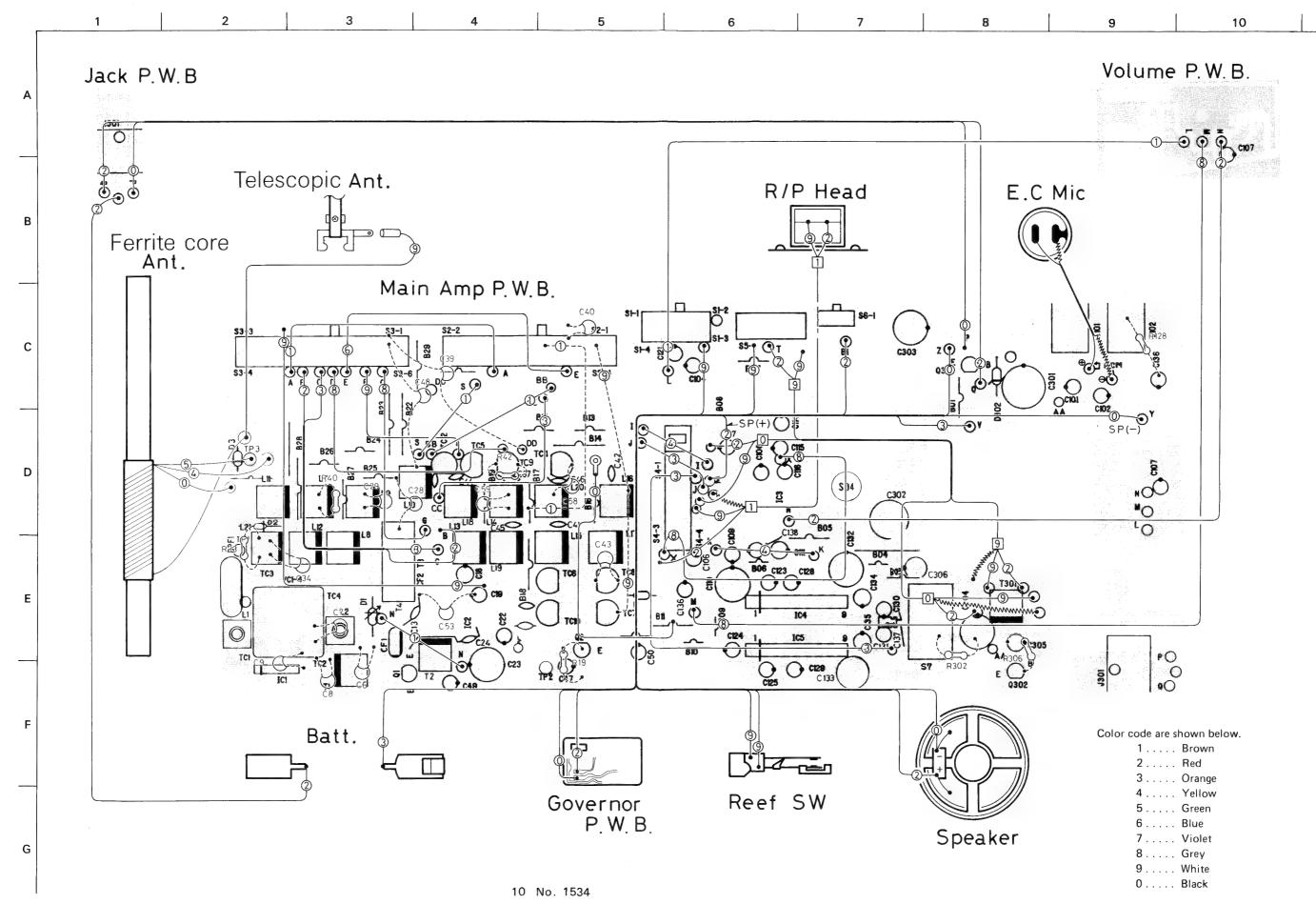
Perform wiring as instructed below so that the following jumper wires are away from the head wire and IC3.

 Set aside jumper wires red, orange and yellow over the slide switch (REC/PB) towards the ferrite core antenna from the center of this switch so that they are away from the head wire.

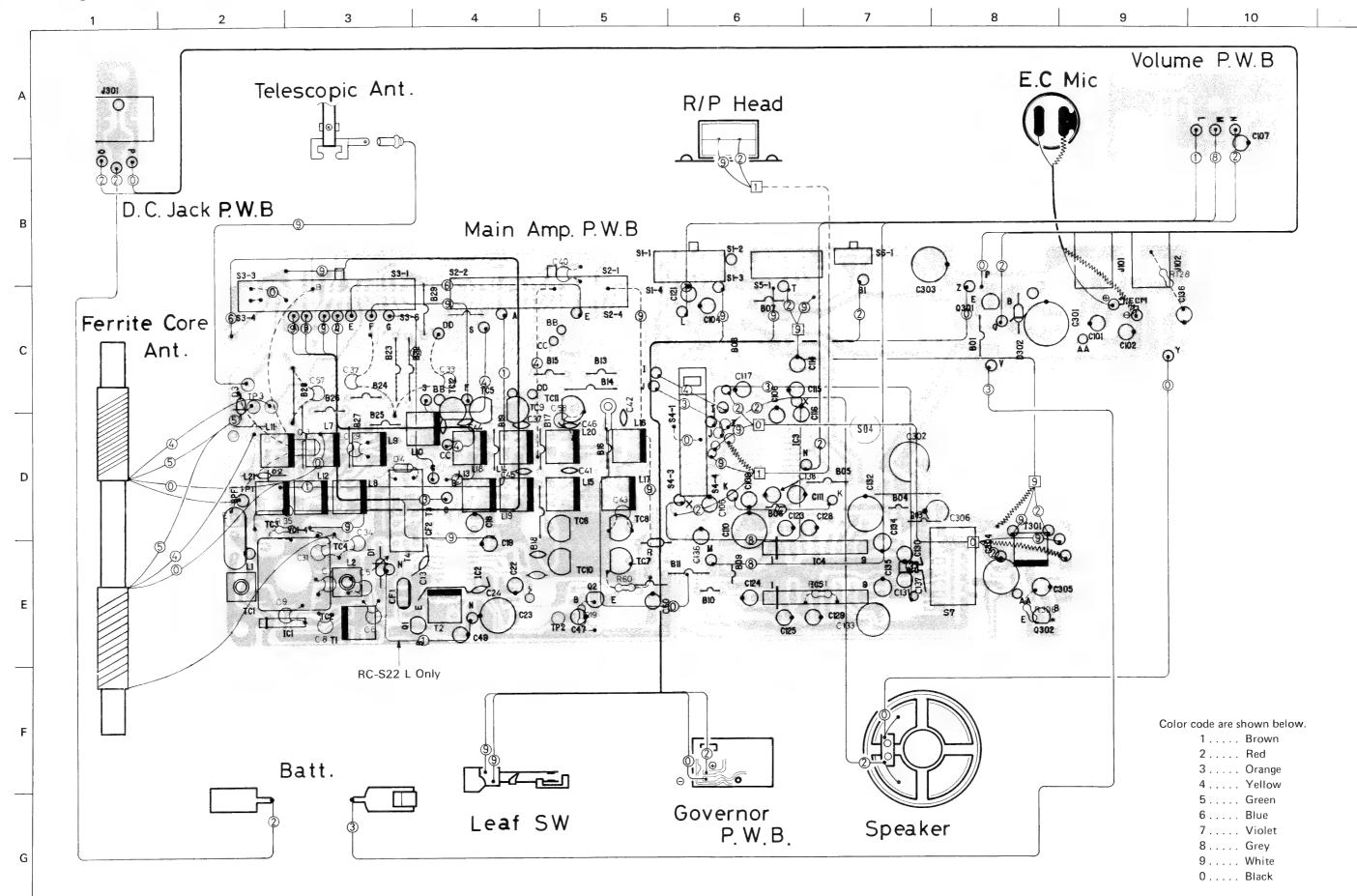
2. Set aside X jumper wire (8) in the direction of the front (parallel with the capacitor) in which it is away from the head wire and IC3.



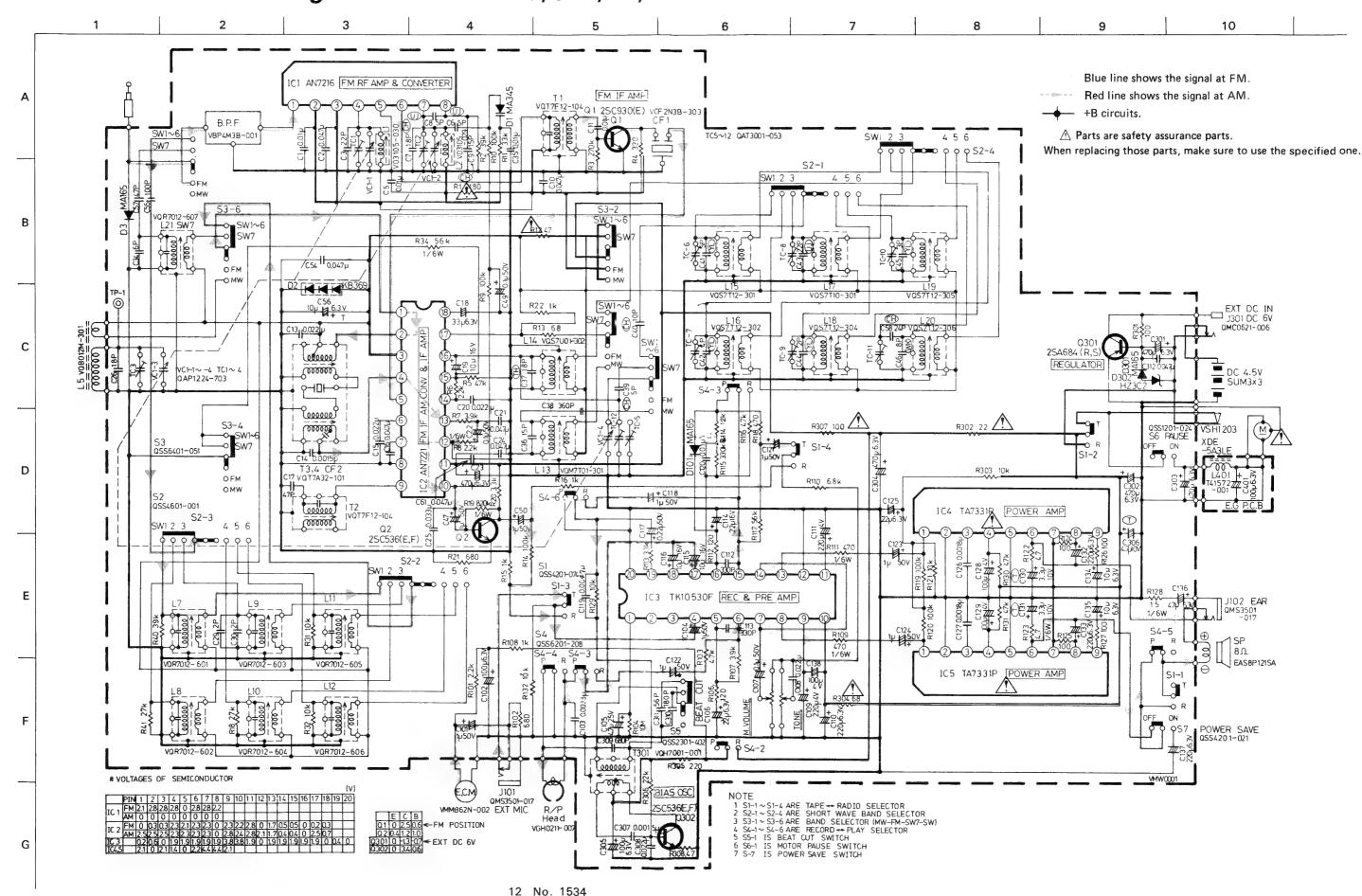
# Wiring Connections of RC-S22 C/W/JW/WH



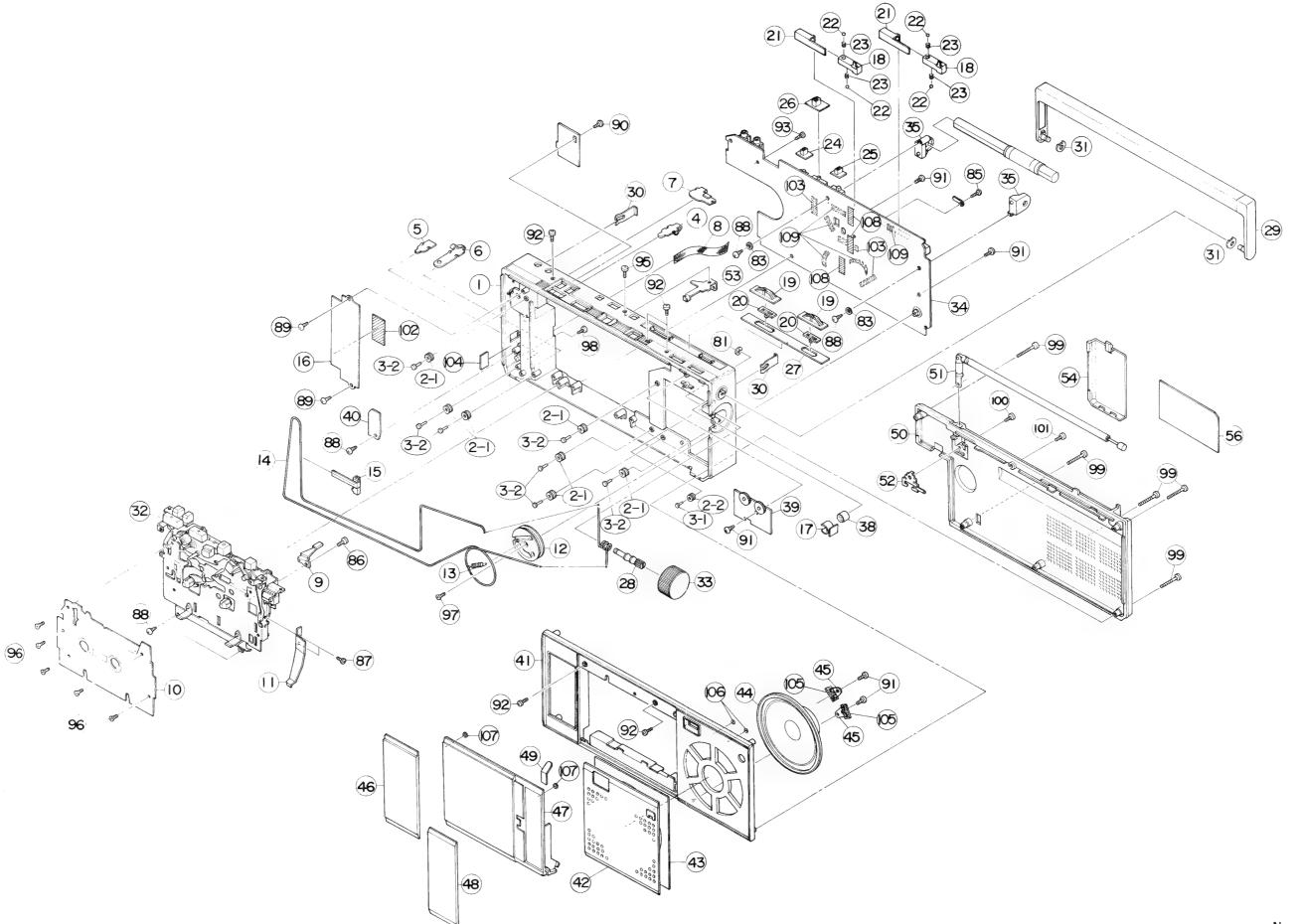
## Wiring Connection of RC-S22 L/LB/LD

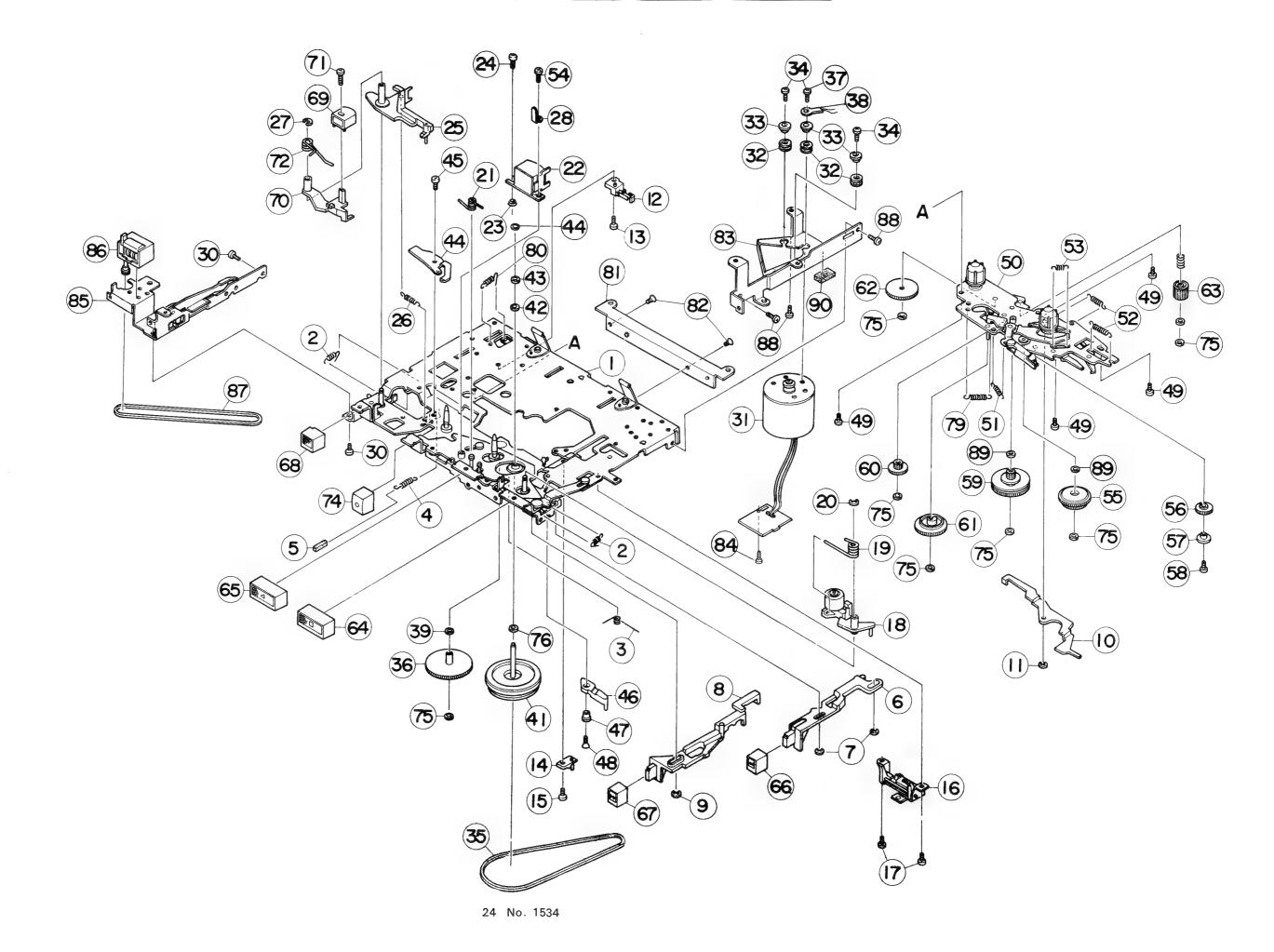


## Standard Schematic Diagram of RC-S22 C/JW/W/WH

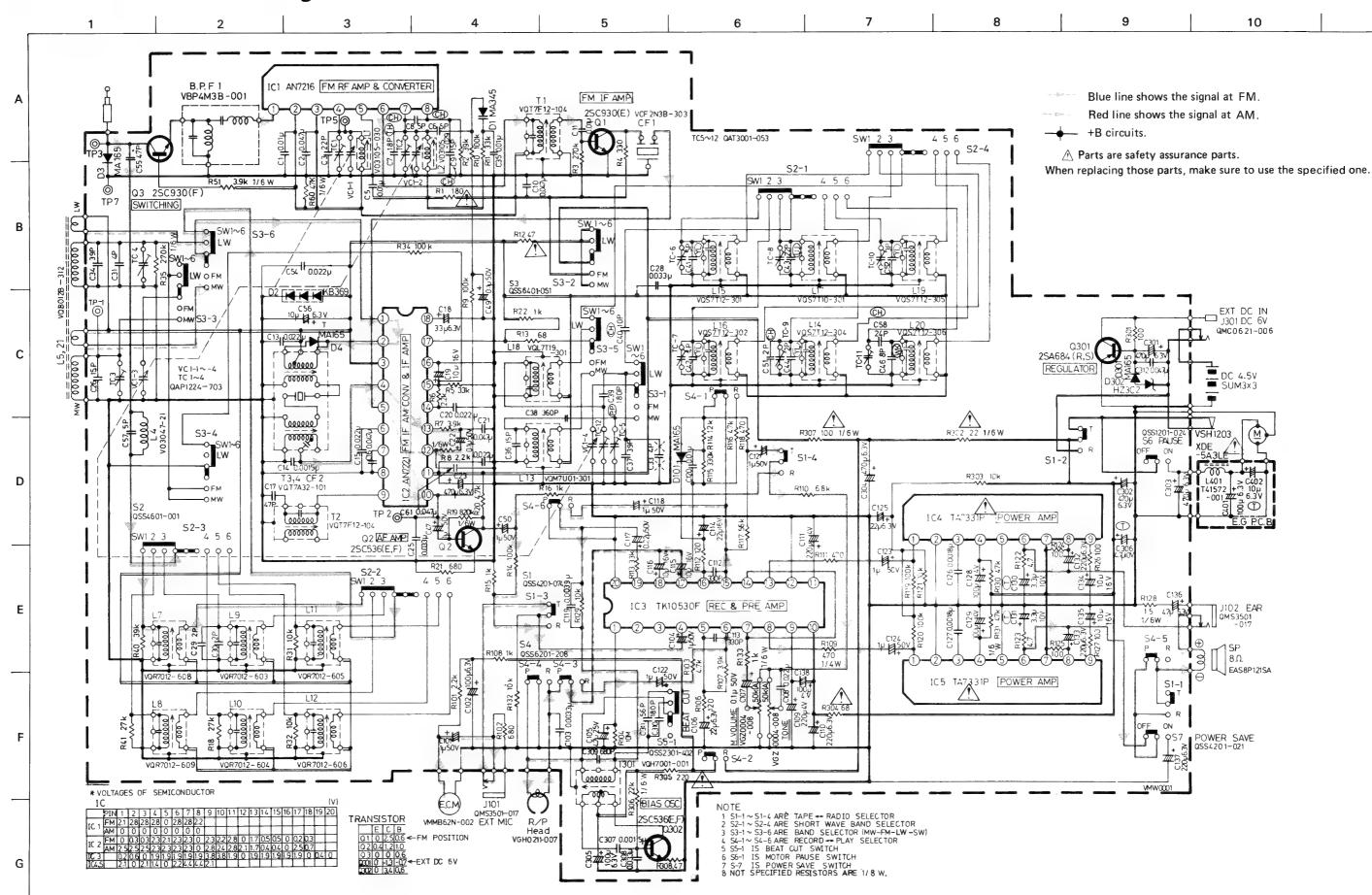


# **Enclosure Assembly and Electrical Parts**

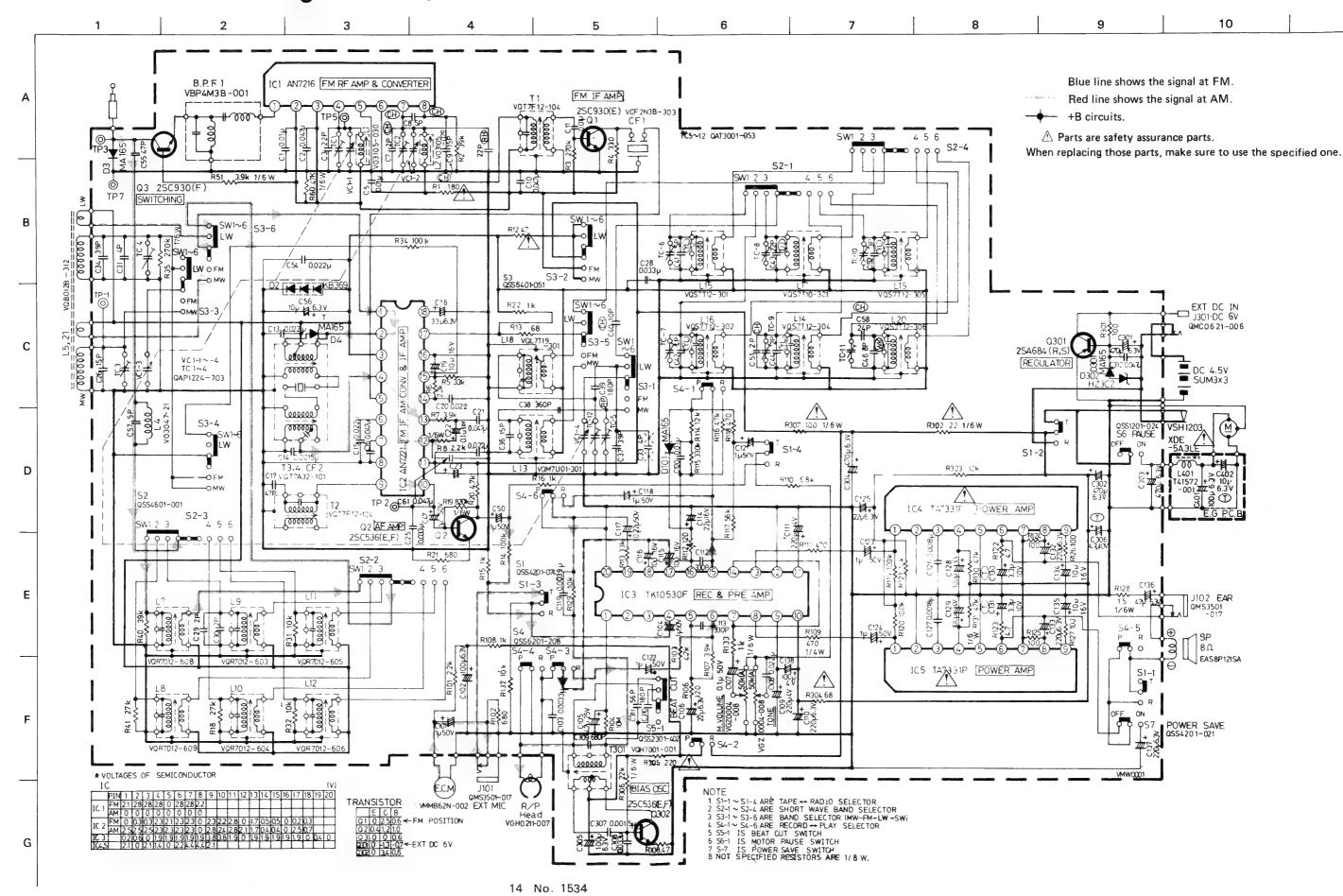




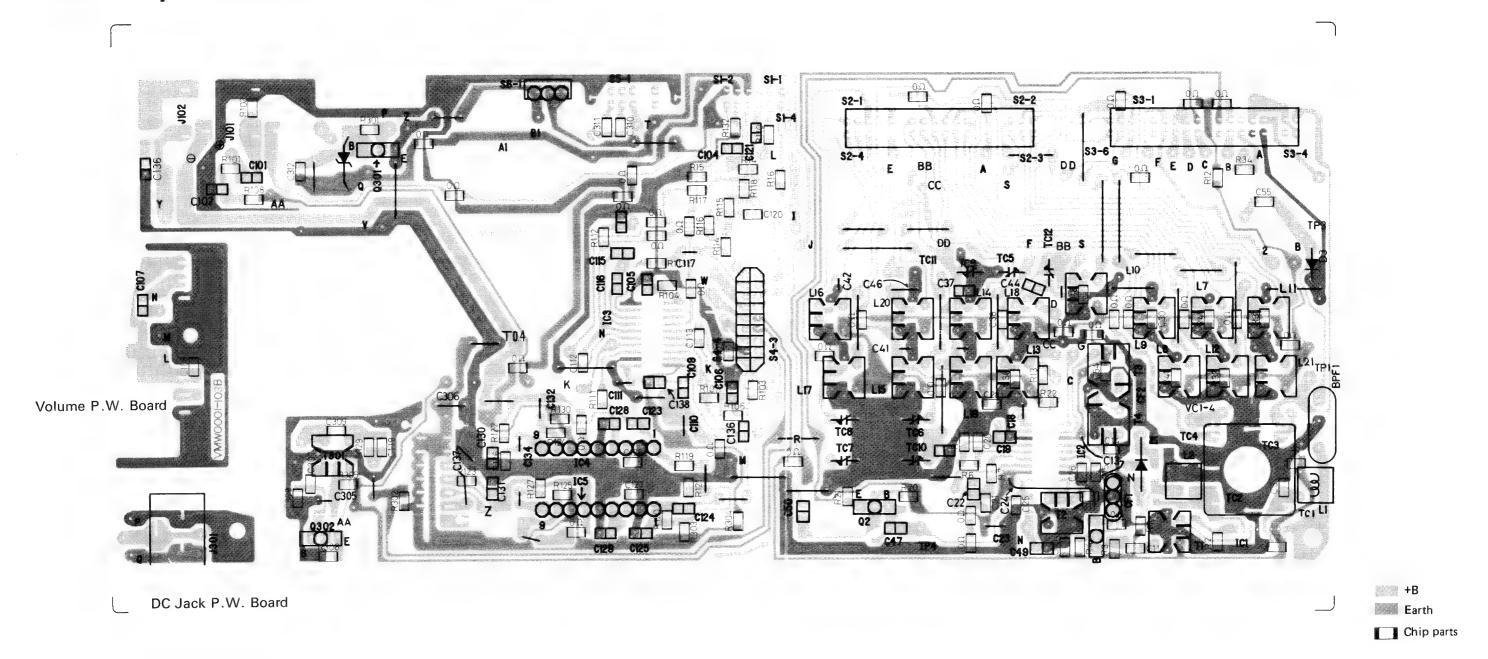
### Standard Schematic Diagram of RC-S22 L/LB



### Standard Schematic Diagram of RC-S22 LD



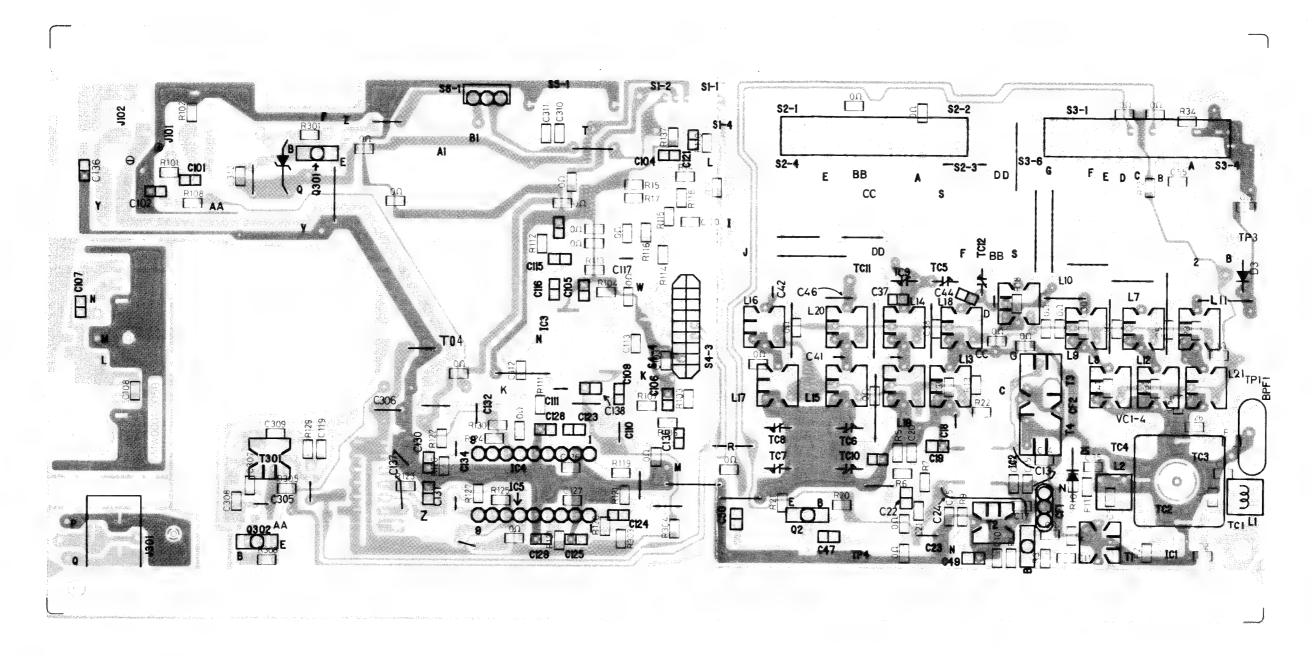
# Main Amp. P.W. Board Parts of RC-S22 L/LB/LD



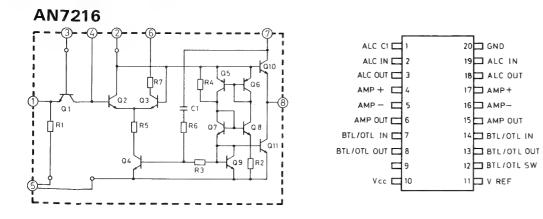
### Volt

_				
_	-	Е	С	В
Q1	2SC930(E)	0	0	0
Q2	2SC536(E,F)	0.4	1.2	1.0
Q301	2SA684(R,S)	0	4.1	4.0
Q302	2SC536(E,F)	0	0.1	0.1

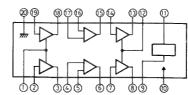
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2.1	2.8	2.8	2.8	0	2.8	2.8	2.2													
IC1,AN7216	AM	0	0	0	0	0	0	0	0												
100 4117001	FM	0	0.3	0.3	2.3	2.1	2.3	2.3	0	2.3	2.2	2.8	0	1.7	0.5	0.5	0	0.2	0.3		
IC2,AN7221	AM	2.5	2.5	2.5	2.3	2.3	2.3	2.3	0	2.8	2.4	2.8	2.1	1.7	0.4	0.4	0	2.5	0.7		
IC3,TK10530		0.2	0.6	0	1.9	1.9	1.9	1.9	1.9	3.8	3.8	1.9	0	1.9	1.9	1.9	1.9	1.9	0	0.4	0
IC4~5,TA7331P		2.1	0	2.1	1.4	0	2.2	4.4	4.4	2.1											



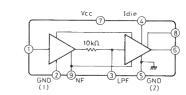
## **Integrant Circuit**



TK10530



**TA7331P** 



+B
Earth
Chip parts

Ref. No.	Parts No.	Parts Name	Remarks
C61	QCS11HJ-4R0 QCC11EM-473	C. Capacitor	RC-S22LD(B)/W(B) RC-S22L(BS)/L(ES)
C101	QEK41HM-105	E. Capacitor	110 0222(00), 2(20)
C102	QEK40JM-107	"	
C103	QCY81HK-332	C. Capacitor	
C104	QEK41HM-105	E. Capacitor	
C105	QEK41EM-475	"	
C106	QEK40JM-226	"	
C107	QEK41HM-104	**	
C108	QCY81EK-223	C. Capacitor	
C109	QEK40GM-227	E. Capacitor	
C110	QEK40JM-227	""	
C111	QEK40GM-227	"	
C112	QCS81HK-331	C. Capacitor	
C113	QCS81HK-331	"	
C114	QEK41CM-226	E. Capacitor	
C115	′′ -106	"	
C116	" -106	"	
C117	QEK41HM-224	,,	
C118	" -105		
C119	QCY81HK-472	C. Capacitor	RC-S22W(B)
	" -392	,,	RC-S22L(BS)/L(ES)/ L(DB)
C120	" -103	,,	
C121-124	QEK41HM-105	E. Capacitor	
C125	QEK40JM-226	"	
C126-127	QCY81HK-182	C. Capacitor	
C128-129	QEK40GM-107	E. Capacitor	
C130-131	QEE51AM-335	T.E. Capacitor	
C132, 133	QEK40JM-227	E. Capacitor	
C134, 135	QEK41CM-106		
C136	QEK40JM-476		
C137	-221	,,	
C138	QEK40GM-107	,,	
C301-303 C304	QEU40JM-477 QET20JM-477	,,	
C304	QEK40JM-107	,,	
C306	QEE51 AM-475	T E Cannaitan	
C307	QCY81HK-152	T.E. Capacitor C. Capacitor	
C308	QCY81EK-223	C. Capacitoi	RC-S22W(B)
"	" -333	,,	RC-S22L(BS)/L(ES)/
	- 555		LD(B)
C309	QCY81HK-681	"	LD(b)
C310	QCS81HK-181	"	
C311	" -560	"	
C312	QCY81EK-473	21	
R1	QRS188J-181	M.G. Resistor	
R2	" -393	**	
R3	′′ -274	"	
R4	" -331	"	
R5	" -473	11	RC-S22W(B)
	" -333	"	RC-S22L(BS)/L(ES)/
			LD(B)
R6	" -222	**	
R7	" -392	**	
R8	QRD161J-222	C. Resistor	RC-S22L(BS)/L(ES)
R9	QRS188J-104	M.G. Resistor	"
R10	" -104	"	"
R11	" -333	"	"
R12	" -470	,,	
R13	" -680	,,	
R14	" -104	**	
R15	" -102	"	
R16	" -102	**	

	1	1	T	
Ref. No.	Parts No.	Parts Name	Remarks	
R18	QRS188J-273	M.G. Resistor		
R19	QRD161J-824	C. Resistor		
R20	QRS188J-332	M.G. Resistor	RC-S22W(B)	
"	" -472	"	RC-S22L(BS)/L(ES)/ LD(B)	
R21	" -681	"		
R22	" -102	"		
R31	" -103	"		
R32	" -103	"		
R33	QRD161J-102	C. Resistor	RC-S22W(B)	
R34	'' -104	<i>"</i>	RC-S22L(BS)/L(ES)/ LD(B)	
	" -563	"	RC-S22W(B)	
R35	" -274	"	32211(3)	
R40	QRS188 J-393	M.G. Resistor		
R41	" -273	"		
R42	" -562	"	RC-S22W(B)	
"	" -103	"	RC-S22L(BS)/L(ES)	
R51	QRD161J-392	C. Resistor	RC-S22L(BS)/L(ES)/ LD(B)	
R60	" -473	"	RC-S22L(BS)/L(ES)/ LD(B)	
R101	QRS188 J-222	M.G. Resistor	, - ,	
R102	" -681	"		
R103	" -472	"		
R104	" -106	"		
R106	-121	,,		
R107 R108	-392	,,,		
R109	-102 QRD141J-471S	C. Resistor		
R110	QRS188J-682	M.G. Resistor		
R111	" -471	"	ļ	
R112	" -121	"		
R113	" -333	"		
R114	-123	"		
R115 R116	" -334 " 472	,,		
R117	" -563	,,		
R118	-471	"		
R119	′′ -104	"		
R120	" -104	11		
R121	" -103	"		
R122	" -4R7	·		
R123 R124-127	" -4R7 " -101	,,		
R128	QRD161J-150	C. Resistor	_	
R129	QRS188 J-103	M.G. Resistor		
R130	" -473	"		
R131	QRD161J-473	C. Resistor		
R132	QRS188J-103	M.G. Resistor		
R133	QRD161J-102	C. Resistor	RC-S22L(BS)/L(ES)/ LD(B)	
R301	QRS188 J-101	M.G. Resistor	ĺ	
R302	" -220	"		
R303	-103	"		
R304 R305	" -680 " -221	,,		
R306	QRD161J-223	C. Resistor		
R307	" -101	"		
R308	QRS188 J-4R7	M.G. Resistor		
_	QRS188J-0R0	"	Q'ty 32	
	F00411-01	Lug		

### Other P.W. Board

Parts No.	Parts Name	Remarks
[Volume P.W. Board]		
VGZ0004-008	V. Resistor	
oard]		
QMA0621-006	DC Jack	
	/. Board] VGZ0004-008 pard]	VGZ0004-008 V. Resistor

# **Enclosure Assembly and Electrical Parts List**

7	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1	VJC1276-001	Chassis Base	RC-S22JW(JS)	1
	,,	" -003	"	RC-S22L(BS)/L(ES)	1
	"	" -004	"	RC-S22LD(B)	1
	,,		"	RC-S22C/JW(JB)/W(B)/W(BB)	1
	2-1	" -012 VYH4585-005	Roller	NC-322C/3W (3B)/ W (B)/ W (BB)	7
		" -004	"		1
	2·2 3-1	VYH4034-001	Stud		li
		VYH5366-001	Roller Stud		7
	3-2				1
	4	VYH5142-001	Battery Contact		1
_	5	VYH5185-001	11		
	6	VYH5195-001	"		1 1
	7	VYH5196-001			1 .
	8	VJD4017-003	Ribbon		1
	9	VKY4305-001	Rec. Spring		1
	10	VJD3368-003	Inner Lay		1
	11	VYH5186-001	Door Spring		1
	12	VYH5144-001	Drum		1
	13	VKW3002-148	Tension Spring		1
	14	VHR2ZK9-03AT	Dial Cord	850 mm	1
	15	VJN4075-001	Pointer		1
_		VJK4197-003	Dial Scale	RC-S22L(EB)/LB(B)/W(B)/JW(JB)/C/W(BB)	1
	16		Diai Scale	RC-S22L(ES)/L(BS)/JW(JS)	1
	1 1	-003		NO-322E(E3)/E(B3)/JW(J3)	1
	17	VYN5024-001	Mic. Bushing		
	18	VYH5145-003	Slide		2
	19	VXS4100-001	Band Knob		2_
	20	VYH5189-001	Knob Spacer		2
	21	VYH3239-003	Clicker		2
	22	T41615-003	Ball		4
	23	VKW3001-095	Spring		4
	24	VXS4080-002	Slide Knob	PAUSE	1
_	25	VXS4104-001	"	TAPE/RADIO	1
	26	VXS4081-002	"	BEAT CUT	i
	1 1		Plate	for Band	1
	27	VJD4689-001		TOT BATTO	1
	28	VYH4009-011	Tuning Shaft	DC 6331 /DC\/L/EC\//W//IC\	
	29	VJH4019-00D	Handle Ass'y	RC-S22L(BS)/L(ES)/JW(JS)	1
		" -00H		RC-S22L(EB)/C/JW(JB)/W(B)/LD(B)/W(BB)	1
	30	VYH4584-001	Spring		2
	31	VYH4583-001	Spacer		2
	32	_	Mechanism Ass'y		1
	33	VXL4126-001	Tuning Knob		1
	34	_	Main P.W. Board Ass'y		1
_	35	VYH5187-003	F. Core Antenna Holder		1
	38	VMMB62N-002	E.C. Mic.		1
	39	_	Volume Board Ass'y		1
	40	_	DC Jack Board Ass'y		li
	41,42,46	ZCRCS22Y-CBF-B		Black	1
	41,42,40	ZCRCS22Y-CBF-S	// (10111 Gabillet A35 y	Silver	1
		ZUNU3221-UDF-3	77		
		1//00446 004		Black	1
	41	VJC2110-001	Front Cabinet	RC-S22JW(JS)/L(BS)/L(ES)/W(B)/W(BB)	1
	"	″ -0012		RC-S22JW(JB)/C/L(EB)/LD(B)	1
	42	VJD3394-001	Speaker Panel	RC-S22JW(JS)/L(BS)/L(ES)/W(BB)	1
	11	" -002	"	RC-S22JW(JB)/C/L(EB)/LD(B)/W(B)	1

 $\triangle$  parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

$\triangle$	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	43	VYTT427-001	Sheet A		1
	44	EAS-8P121SA	Speaker		1
	45	VYH5167-001	Clamp		2
	46	VJK3208-005	Dial Lens	RC-S22LD(B)/L(EB)	1
	"	" -006	"	RC-S22L(BS)	1
	"	" -007	**	RC-S22W(B)/JW(JB)/C/W(BB)	1
	"	" -008	"	RC-S22JW(JS)	1
f	47,49,107		Cassette Door Ass'y	Silver	1
		ZCRCS22Y-CCA-B		Black	1
	47	VJT3112-00F	Cassette Door Ass'y	RC-S22L(BS)/L(ES)	1
	",	-000	,,	RC-S22W(B)/W(BB)/JW(JB)/C	1
		-00E		RC-S22L(EB)	1
	"	′′ -00D	"	RC-S22JW(JS)	1
	"	" -00G	"	RC-S22LD(B)	1
	48	VJT4079-001	Cassette Cover	RC-S22L(BS)/L(ES)/JW(JS)/LD(B)	1
	"	′′ -002	"	RC-S22W(B)/W(BB)/C/JW(JB)/L(EB)	1
	49	VYH5256-001	Cassette Spring		1
	50, 56	ZCRCS22Y-CBR-S	Rear Cabinet Ass'y	Silver	1
	"	ZCRCS22Y-CBR-B	"	Black	1
	50	VJC2111-001	Rear Cabinet	RC-S22L(BS)/L(ES)/JW(JS)/W(BB)	1
	"	" -012	"	RC-S22LD(B)/L(EB)/JW(JB)/C/W(B)	1
	51	VJA3013-00A	Telescopic Antenna		1
	52	VYH4954-003	T. Antenna Holder		1
	53	VYH5334-001	Bracket		1
	54	ZCRCS22Y-BCA-S	Battery Cover		1
	"	ZCRCS22Y-BCA-B	"		1
	56	VYN5086-002C	Name Plate	RC-S22JW(JB)/JW(JS)	1
	11	" -003C	"	RC-S22W(B)	1
	"	" -004C	"	RC-S22C	1
	"	" -006C	**	RC-S22L(BS)/L(ES)/L(EB)	1
	"	" -007C	"	RC-S22LD(B)	1
	81	REE2500	E-Ring	T. Shaft	1
	83	Q03095-203	Washer	F. Core Antenna	2
1	85	VKZ4013-001	Special Screw	Mecha. — P.W.B. x 1	1
	86	SPSK1716M	Mini Screw	Rec. Spring x 1	1
	88	SBSF2608Z	Tap. Screw	DC Jack x 1, F. Core Antenna Holder x 2,	5
	00	3631 20002	Tap. Sciew	Mecha. Bracket — Chassis x 2	
	89	F00410-24N	"	Chassis – D. Back x 2	2
	90	SBSF2008Z	**	Chassis — G.P.W. Board	1
	91	SBSF2606Z	"	Speaker x 2, Chassis — P.W.B. x 2, VR P.W.B. x 1	5
	92	SPSH1740N	Mini Screw	Front Cabinet — Chassis x 1, Mecha. — Chassis (Top x 3, Bracket — F. Cabinet x 1	) 5 I
	95	SPSH1730N	"	Bracket — Chassis x 1, Mecha. Bracket — P.W.B. x 1	2
	96	SSSK1720M	"	Inner Lay x 5	5
	97	SSSH1740M	"	Drum x 1	1
	98	SPSF2612R	Tap. Screw	Chassis — Front x 1	1
	99	SPSF2625R	"	(F. Cabinet – Chassis – P.W.B. – R. Cabinet) x 5,	6
				Ant R. Cabinet x 1	
	100	SPSP2606R	Screw		1
	101	SPSP2605R	Tap. Screw	Bracket — R. Cabinet x 1	1
	102	VYSS1R1-009	Spacer		1
	103	VYSA1R4-030	"		3
	104	VYSR102-026	"	DC Jack P.W.B. x 1	1

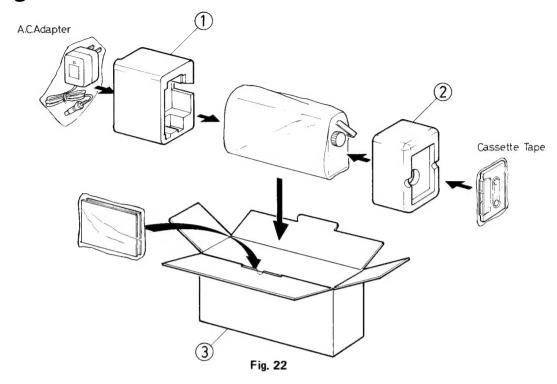
$\triangle$	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	105	VYSA1R6-034	"		2
	106	VYSS2R2-004	"		2
	107	VYSA2R4-001	"		2
	108	VYSR103-019	"		3
	109	VYSA1R4-030	"		5_

# **Mechanical Component Parts List**

Ref. No.	Parts No.	Parts Name	Remarks	Q
1	VKL2187-00E	Chassis Base Ass'y		
2	VKW3002-103	Tension Spring	Stop Bar, Eject Bar	
3	VKW3006-052	Torsion Spring	Play Bar	'
4	VKW3002-118	Tension Spring	Rec.	.
5	VKZ4139-001	Silencer		
6	VKS3156-001	FF Bar	FF Bar	
7	REE1500	E-Ring		
8	VKS3157-002	Rew. Bar		7
9	REE2000	E-Ring		
10	VKL5239-001	Switch Lever		
11	REE1500	E-Ring		
12	VSH1203-004	Leaf Switch	BA	
			Motor	
13	SPSK1725M	Mini Screw		
14	VKS4472-002	Lock Adapter		
15	SPSK1416M	Mini Screw		
16	VKL5240-00E	Lock Cam Bracket Ass'y		
17	SPSK1716M	Mini Screw		
18	VKP4124-00A	Pinch Roller Arm Ass'y		
19	VKW3006-047	Torsion Spring	Pinch Roller	
20	REE2000	E-Ring		
21	VKW3006-048	Torsion Spring	Head Base	
22	VGH0211-007	R/P Head Ass'y	Tiona Daso	10
23	VKW4369-002	Azimuth Spring		
24	SPSX2006N	Screw	Azimuth	
25	VKS4472-002	Tape Guide Arm	Telliutii	
			T 0 : 1	
26	VKW3002-102	Tension Spring	T. Guide	
27	REE2000	E-Ring	E. Head Lever	
28	VKZ4001-012	Wire Clamp		
30	SPSK1725M	Mini Screw	Counter Bracket	2
31	XDE-5A3LD	Motor		
32	VKZ4015-003	Rubber Bushing		
33	VKH4375-001	Motor Bushing		
34	SPSK1735M	Mini Screw		
35	VKB3000-073	Belt		
36	VKR4308-002	Sub Gear		
	SPSK1740N		Motor	
37		Screw	MOTOL	
38 39	F00411-01	Cug		A   1   1   1
39 40	Q03093-835 Q03093-846	Washer Spacer		
41	VKF3121-00F	Flywheel Capstan Ass'y	_	
42	Q03093-830	Washer	Thrust	
43	REE1600	E-Ring		
44	VKY4263-003	Head Base Spring		
45	SPSK1716M	Mini Screw		
46	VKS4498-001	Cue Review Lever		1
47	VKH3013-015	Flange Collar	C.R. Lever	
48	SSSK1735M	Mini Screw		
49	SPSK1716M	"		4
50	VKL3436-00A	Reel Disk Bracket Ass'y		
51	VKW3002-105	Tension Spring	Kick Lever	
52	" -113	"	FF Rew. Bar	
53	" -111	"	Take-up Lever	
54	SPSP2004N	Screw	R/P Head	1
J-4				

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
56	VKR4296-001	FF Gear		1
57	VKH3013-016	Flange Collar		1
58	SSSK1420M	Mini Screw		1
59	VKR4297-00A	F.R. Clutch Ass'y		1
60	VKR4300-001	Middle Gear		1_
61	VKR4301-001	Cam Gear		1
62	VKR4302-001	Rew. Gear (2)		1
63	VKR4303-001	" (1)		1
64	VXP4242-003	Stop Button		1
65	VXP4243-003	Play Button		1
66	VXP4244-003	FF Button		1
67	VXP4245-003	Rew. Button		1
68	VXP4246-003	Eject Button		1
69	VGH0212-406	Magnet Erase Head		1
70	VKS4475-002	E. Head Lever		1
71	VKZ4017-001	Special Screw		1
72	VKW4378-001	E. Head Lever Spring		1
74	VXP4262-002	Rec Button		1
75	VKZ4004-004	Special Washer		7
76	Q03093-838	Washer	Flywheel	1
79	VKW3002-107	Tension Spring	REW. Lever	1
80	" -121	",	REC. Safety	1
81	VYH5143-001	Lower Bracket		1
82	SPSK1720M	Mini Screw		2
83	VKL3441-001	Motor Bracket		1
84	SBSF2008Z	Screw		4
85	VKL5382-00B	Counter Bracket Ass'y		1
86	VKC5159-001T	Tape Counter		1
87	VKB3000-066	Belt		1
88	SPSK1720M	Mini screw	Motor Bracket	3
89	This DWD	Washer		2
90	UYSS1R3-001	Spacer	Motor Bracket	1

## **Packing**



### Positions of controls and switch knobs at renewal packing:

TONE : MAX VOLUME : MAX

BAND SELECTOR : MW/AM & SW6

FUNCTION : TAPE (RADIO STANDBY)
BEAT CUT : 2

BEAT CUT : 2 PAUSE : OFF

TUNING : Approx. 600 kHz

COUNTER : 000 BATTERY SAVE : OFF

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VGB0005-005	Cushion (L)		1
2	VGB0011-001	" (R)		1
3	VPD5086-J01	Carton	RC-S22W	1
"	" -J03	"	RC-S22JW	1
"	" -J09	"	RC-S22L(BS)/L(ES)/L(EB)	1
"	" -J19	"	RC-S22L(RS)	1
"	" -J17	"	RC-S22LD(B)	1
	VHPJ040-022	Paper Sheet	RC-S22W(B)	1
	QPGA007-01003	Poly Bag	for Siemens Plug	1
	QPGB017-02404	"	for Instruction Book	1
	E66146-003	"	for Warranty Card	1

### **Accessories**

$\triangle$	Parts No.	Parts Name	Remarks	Q'ty
	VYA4002-001	Short Plug		1
	VMA0914-301	Instruction Book	RC-S22L(BS)/LD(B)	1
	VNM0902-901	"	RC-S22C/W(B)/JW(JB)	1
	VNM0922-101	"	RC-S22W(BB)	1
	VGT12S2-J05	Cassette Tape		1
	VNF0894-001	Feature Sticker		1
	BT20060C	Guaranty Certificate	RC-S22L(BS)/LD(B)/L(ES)/L(EB)	1
	BT20066C	"		1
	VGB0005-006	AC Adaptor	RC-S22W(W(BB)	. 1
	VPZ4001-001	Serial Ticket	RC-S22L(BS)/L(ES)/L(EB)/LD(B)	1
	" -002	"	RC-S22L(RS)	1
] .	VNC5202-006	AC Adaptor Instruction	"	1
	BT20065	Warranty Card	RC-S22LD(B)	1
	BT20054-003A	Caution Sheet	"	1 1
	VGB0011-002	AC Adaptor	RC-S22C	1
	BT20025F	Warranty Card		1
	BT20013C	Guaranty Certificate	RC-S22W(BB)	1
	31465-18	Mark	"	1 1
	QME1308-004	Earphone	RC-S22W(B)	1 1
	V04062-001	Siemens Plug	"	1 1
	VGB0011-001	AC Adaptor	RC-S22JW(JB)	1
	BT20047A	Warranty Card	"	1
	BT20046B	Special Reply Card		1



